

# Standard Grading Rules for Southern Pine Lumber

Management of Change Form



Name of Person Requesting the Change: Various

Date of Requested Change: 5/24/2024

Request Title: 1. Southern Pine Definition, 2. Knot Measurement Section

Printed Date: TBD

Change Category:

- |  |   |
|--|---|
| <input type="checkbox"/> Proposal to align with National Grading Rule    | <input type="checkbox"/> Proposal to align with SPIB governance     |
| <input type="checkbox"/> Proposal to align with ALSC Enforcement Regs    | <input type="checkbox"/> Proposal based Resource Monitoring Program |
| <input type="checkbox"/> Proposal to align with PS 20                    | <input type="checkbox"/> Grade Rule – Addition                      |
| <input checked="" type="checkbox"/> Editorial change to existing content | <input type="checkbox"/> Grade Rule – Removal                       |

Description of Proposed Change: *(In very few words, what does the proposed change accomplish?)*

1. Change the currently existing definition of Southern Pine to more clearly communicate what is meant by this nomenclature.
2. Clarify section 719 of the rule book that details knot measurement and location.

Rationale: *(Briefly explain why the proposal should be adopted?)*

1. The current definition does not clearly define the country of origin for Southern Pine.
2. Some of the section headings and other content may be misleading or hard to understand
3. Previous versions of the Standard Grading Rules for Southern Pine Lumber gave reference to these moisture content designations, and they should appear in the rule book if still used by mills under agency supervision.

Proposal: *(Show new, revised, or deleted text exactly as it would appear in the legislative format: ~~Line-through text~~ to be deleted. Underline text to be added. If possible, avoid using the “track changes” tool; instead, use the “strikethrough” and “underline” features in the font menu. Please note section(s) to be deleted if revisions are extensive and include replacement text. Please make every effort to include the text within this section, not as a separate attachment. Do not include unaffected sections, tables, or figures unless it is necessary to demonstrate the relationship of proposed revisions.)*

## Supporting Information:

### 1. Southern Pine Definition

#### Section 102 additions and removals

102.1(a) The species grouping "Southern Pine", also known as "Southern Yellow Pine" is abbreviated as "SYP" and refers to domestic southern pine grown and harvested from the southeastern United States. Based on its rate-of-growth wood quality, southern pine may be classified as dense.

102.1 (b) Southern Pine provided herein is based on lumber from the Southern Pine species as produced in Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, and Virginia.

~~102.1(a) Lumber cut from Southern Pine trees is classified as Southern Pine and based on its rate-of-growth wood quality, as dense.~~

~~102.1(b) The dense classification provided herein is based on lumber from the Southern Pine species as produced in Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, and Virginia.~~

~~102.1(c) The grade mark applied to imported Southern Pine commercial species shall indicate "I-SP" for Imported Southern Pine. Imported Southern Pine shall include the four principal tree species of longleaf (*Pinus palustris*), slash (*Pinus elliotii*), shortleaf (*Pinus echinata*), and loblolly (*Pinus taeda*), or any combination of these four species.~~

~~102.1(d) The grade mark applied to imported Caribbean Pine commercial species shall indicate "I-CARIB" for Imported Caribbean Pine. Imported Caribbean Pine shall include one or both the two tree species of Caribbean Pine (*Pinus caribaea*) and Ocote pine (*Pinus oocarpa*).~~

~~102.1(e) A sample of the imported commercial species shall be subjected to appropriate testing to determine the design values. Each source of material (imported Southern Pine or imported Caribbean Pine, geographic location, etc.) is required to be tested.~~

#### Omit Sections 425 and 426

#### **425. RADIUS EDGE DECKING "I-SP"**

~~The grade mark applied to imported Southern Pine species shall indicate "I-SP" for Imported Southern Pine. Imported Southern Pine shall include the four principal tree species of longleaf (*Pinus palustris*), slash (*Pinus elliotii*), shortleaf (*Pinus echinata*), and loblolly (*Pinus taeda*), or any combination of these four species. A sample of the imported species or combination of Southern Pine species shall be tested according to the "ALSC policy for evaluation of recommended spans for span rated decking products". Each source of material (species or combination of Southern Pine species, geographic location, etc.) is required to be tested. The grade mark must include the ALSC Board of Review approved span if less than 24" OC (See note in Section 420.1).~~

#### **426. RADIUS EDGE DECKING "I-CARIB"**

~~The grade mark applied to imported Caribbean Pine species shall indicate "I-CARIB" for Imported Caribbean Pine. Imported Caribbean Pine shall include the two principal tree species of Caribbean pine (*Pinus caribaea*) and Ocote pine (*Pinus oocarpa*) or the combination of these two species. A sample of the imported species or combination of Caribbean Pine species shall be tested according to the "ALSC policy for evaluation of recommended spans for span rated decking products". Each source of material (species or combination of Caribbean Pine species, geographic location, etc.) is required to be tested. The grade mark must include the ALSC Board of Review approved span if less than 24" OC (See note in Section 420.1).~~

## APPENDIX A

### DESIGN VALUES FOR WOOD

Wood is a natural product subject to variations in geography, climate, specific site characteristics, ~~silvacultural~~ [silvicultural](#) practices, and harvesting decisions. Its strength properties are not only anisotropic (vary by principal axis) but also can vary with proximity to the center of the tree. These characteristics complicate the assignment of individual pieces into design value groups based on the visual appearance.

[\(add paragraph break\)](#) ASTM International consensus standards D245, D2555 and D1990 are all used to assign design values for bending, tension and compression parallel to grain to visually graded lumber. The standard used is dependent upon the species or species grouping under consideration and the size of the member.

[\(add paragraph break\)](#) Design values for horizontal shear and compression perpendicular to grain for visually graded lumber are derived using only the procedures specified in ASTM D245 and ASTM D2555.

[\(add paragraph break\)](#) Design values for Timbers and industrial lumber are also established using only ASTM D245 and ASTM D2555. The use of D245 and D2555 results in design values which are based upon testing clear wood samples of each species or each species within a species grouping.

[\(add paragraph break\)](#) For species groups, the strength values for each species are combined into a single value by using a weighting procedure based on standing timber volume of each species in the group. On the other hand, design values for visually graded dimension lumber for some species such as Southern pine are established using ASTM D1990. These values are based upon testing a representative sample of lumber meeting the visual requirements of the grade group under consideration. Not every grade group is tested nor is every physical property tested. Interpolations and modelling are used to provide design values for the grade groups. While the Modulus of Elasticity is represented by an average value, other properties such as bending strength and compression parallel to grain are represented by a lower 5% exclusion value. The sample data is adjusted for testing conditions, adjusted to a characteristic size, and ranked by value (numerical order). This procedure, following the ASTM D2915, produces a tolerance limit that provides 75% confidence that the true population 5th percentile value is higher than this estimate. This value is then used to establish the design value. Each piece or lot of visually graded lumber is not mechanically tested to verify strength properties. Since the ~~stress ratings~~ [design values](#) are representative of the entire producing region, lots from a specific location may have physical properties at the extremes of the property range or statistical distribution representing that range of strength values.

[Design values for visual or mechanical grades of imported pine species grown, manufactured, or imported from outside the Southern United States growing region are outside the purview of the Southern Pine Inspection Bureau.](#)

## Removal of Argentina Southern Pine Design Values

ARGENTINA SOUTHERN PINE (FOHC) BASE VALUES						
Grade	Extreme Fiber in Bending (psi) "F <sub>b</sub> "	Tension Parallel to Grain (psi) "F <sub>t</sub> "	Shear Parallel to Grain (psi) "F <sub>v</sub> "	Compression Perpendicular to Grain (psi) "F <sub>c⊥</sub> "	Compression Parallel to Grain (psi) "F <sub>c∥</sub> "	Modulus of Elasticity (million psi) "E"
Base Design Values <sup>(1)</sup> — See Table 17 for Size Factors						
Select Structural	1700	775	210	710	1250	1.5
No. 1	1150	525	210	710	1150	1.5
No. 2	1000	450	210	710	1100	1.5
No. 3	575	250	210	710	650	1.4
Stud	800	350	210	710	700	1.4
Construction	1150	525	210	710	1350	1.4
Standard	650	300	210	710	1150	1.3
Utility	300	125	210	710	750	1.2

Appendix A Table 15: Base Design Values for Southern Pine From Misiones Argentina – Free of Heart Center & Medium Grain Density – Use Size Factors in Table 17

(1) Applies to Kiln Dried or S-Dry, MC 15, MC 19

See additional Design Value Footnotes page 276

ARGENTINA SOUTHERN PINE BASE VALUES						
Grade <sup>d</sup>	Extreme Fiber in Bending (psi) "F <sub>b</sub> "	Tension Parallel to Grain (psi) "F <sub>t</sub> "	Shear Parallel to Grain (psi) "F <sub>v</sub> "	Compression Perpendicular to Grain (psi) "F <sub>c⊥</sub> "	Compression Parallel to Grain (psi) "F <sub>c∥</sub> "	Modulus of Elasticity (million psi) "E"
Base Values <sup>(1)</sup> — See Table 17 for Size Factors						
Select Structural	1100	500	150	440	1150	1.2
No. 1	775	350	150	440	1000	1.1
No. 2	725	325	150	440	950	1.1
No. 3	425	200	150	440	550	0.9
Stud	575	250	150	440	600	0.9
Construction	825	375	150	440	1150	1.0
Standard	475	200	150	440	975	0.9
Utility	225	100	150	440	650	0.8

Appendix A Table 16: Base Design Values for Southern Pine From Misiones Argentina<sup>a</sup> - Base Design Values - Use Size Factors in Table 17

(1) Applies to Kiln Dried or S-Dry, MC 15, MC 19

See additional Design Value Footnotes page 276

## Change to Size factor table

SIZE FACTOR TABLE <sup>(1)</sup> (FOR USE WITH TABLES 15, 17 & 18 13 Only)					
Grade	Width (depth)	"F <sub>b</sub> "		"F <sub>t</sub> "	"F <sub>c∥</sub> "
		Thickness (breadth)			
		2" & 3"	4"		
Select Structural, No. 1, No. 2, and No. 3	2", 3", & 4"	1.5	1.5	1.5	1.15
	5"	1.4	1.4	1.4	1.1
	6"	1.3	1.3	1.3	1.1
	8"	1.2	1.3	1.2	1.05
	10"	1.1	1.2	1.1	1.0
	12"	1.0	1.1	1.0	1.0
Stud	14" & Wider	0.9	1.0	0.9	0.9
	2", 3", & 4"	1.1	1.1	1.1	1.05
	5" & 6"	1.0	1.0	1.0	1.0
Construction & Standard	8" & Wider	Use No. 3 grade design values and factors			
	2", 3", & 4"	1.0	1.0	1.0	1.0
Utility	4"	1.0	1.0	1.0	1.0
	2" & 3"	0.4	0.4	0.4	0.6

Appendix A Table 17 15: Size Factors, C<sub>F</sub> - To be used with Tables 15, 17, & 18 Table 13 - Multiply the tabulated design value by the following size factors to obtain values for the indicated width.

(1) The base design values are for the characteristic size of 2"x12"x144" for SEL STR. No.1, No. 2, and No.3, 2"x6"x120" for Stud, and 2"x4"x144" for Construction, Standard, and Utility

## 2. Section 719 Clarification

Separated start of knot location section from end of knot measurement section in Section 719, as well as putting section subheadings in all caps for further clarification. Improved spacing for readability.

**KNOT-MEASUREMENT** (cont.) as interpreted by the National Grading Rules for Dimension Lumber.

Figure 5 (Bottom) 4-Face Knots

$$\text{Knot Size} = \frac{A+B}{2}$$

**KNOT-LOCATION** as interpreted by the National Grading Rules for Dimension Lumber.

The allowable size for knots on wide faces, when appearing away from the edge, shall be proportionately increased from the size specified for knots located at the edge of the wide face to the size specified for knots located along the center line. The increase shall start at a distance from the edge equal to 1/2 the diameter of the allowable edge knot (Figure 6).

END FORM